

REMARKS

This application has been carefully reviewed in light of the Office Action dated December 30, 2009. Claims 1 to 6, 8 to 10, 12 to 14 and 16 to 24 remain pending in the application, of which Claims 1, 13, 14 and 16 to 18 are independent. Reconsideration and further examination are respectfully requested.

Claims 1 to 6, 8 to 10, 12, 13, 16, 17, 19, 20, 22 and 23 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 7,159,007 (Stawikowski) in view of U.S. Patent No. 7,386,860 (Dani), and Claims 14, 18, 21 and 24 were rejected under 35 U.S.C. § 103(a) over Stawikowski in view of U.S. Patent No. 6,826,597 (Lonnroth). The rejections are traversed and it is requested that the Examiner reconsider and withdraw the rejections in light of the following comments.

Claims 1 and 16 are directed to a server that offers a service provided by the server on a communication network. The server sends, to a client, a service description document in a language for describing web services comprising a description of the type, content and sequencing of data exchanged between the server and any client when the service is executed. The service description document is independent of any client or user characteristic and comprises a description of a processing functionality implemented during a preprocessing or post-processing of data in XML format of a message exchanged during the execution of the service on the communication network. In this context, the description of the processing functionality comprises a list of properties supported by the processing functionality, the properties defining at least respectively, the node in the communication network adapted to execute the processing, and the type of processing, and the description of the processing functionality comprises a property adapted to specify

whether the processing to be carried out is obligatory or optional.

The applied art, alone or in any permissible combination, is not seen to disclose or to suggest the features of Claims 1 and 16, and in particular, is not seen to disclose or to suggest at least the features that the service description document is independent of any client or user characteristic and comprises a description of a processing functionality implemented during a preprocessing or post-processing of data in XML format of a message exchanged during the execution of the service on the communication network.

Stawikowski describes a mechanism for making available automation equipment as a remote service which is described in WSDL. The main goal of Stawikowski is to adapt automation equipment to the Web Service world, allowing an easy access to them. To adapt the automation equipment to Web services, Stawikowski uses a description of the services provided by the automation equipment using WSDL. Moreover, as automation equipment uses specific protocols to communicate between themselves, Stawikowski has added to WSDL an extension to allow the description of those specific protocols, such as PROFInet, EtherNet/IP or MODBUS/TCP. These are specific protocols.

In the example described in Stawikowski at column 9, line 24 to column 10, line 35, a service description document in WSDL language comprises several binding (EtherNetIPBinding, ModBusTCPBinding, PROFInetPortBinding) but no description of any additional functionality of such an extension protocol. Therefore, Stawikowski discloses sending to a client computer (51, Fig. 1) a service description document (61, Fig. 1) comprising information relating to a communication protocol used for exchanging messages (col. 5, line 55 to col. 6, line 8 and col. 7, line 56 to col. 8, line 3). However,

Stawikowski is not seen to disclose “a description of a processing functionality implemented during a preprocessing or a post-processing of data in XML format of a message exchanged during the execution of the service on the communication network” since it describes the use of different protocols. In particular, Stawikowski does not disclose any service which can provide pre or post processing features to the client in addition to the core processing. As such, Stawikowski is not seen to disclose any description of services which would contain a description of pre or post processing features.

Dani is not seen to make up for the foregoing deficiencies. In this regard, Dani is seen to disclose a web service description language with object-extensions, for example providing, for a web service, a type description indicating that a service extends another service or that a service implements an interface. Therefore, while Dani may relate somewhat to extensibility elements, such elements concern the service description and how to interact with the server providing the service, but not a description of a processing functionality implemented during a preprocessing or post-processing of data in XML format.

In view of the foregoing, Claims 1 and 16 are believed to be allowable over the cited art.

In another aspect of the invention according to Claims 13 and 17, the claims are directed to the client side that receives the service description document. More particularly, the client, upon receiving the service description document, performs a check to see if it is able to process the service itself. In more detail, Claim 13 is directed to a method of testing access to a service by a client computer in a communication network,

from a service description document, comprising the following steps implemented by the client computer, extracting from the service description document, provided by a server computer offering the service, a description of a processing functionality implemented during a preprocessing or the post-processing of data in XML format of a message exchanged during the execution of the service on the communication network, reading, from the extracted description of the processing functionality, a value associated with a property adapted to specify whether the processing must be executed by the client computer, reading, from the extracted description of the processing functionality, a value of a property adapted to specify whether the processing is obligatory or optional, and verifying whether the processing is supported by the client computer in the communication network when the processing is obligatory and must be executed by the client computer in the communication network.

Inasmuch as Claims 13 and 17 include the patentable features discussed above with regard to Claims 1 and 16, and inasmuch as Stawikowski and Dani are not seen to teach those features as discussed above, Claims 13 and 17 are also believed to be allowable.

In yet another aspect of the invention according to Claims 14 and 18, the invention validates a message received by an intermediate computer in a communication network. The invention acquires the message, by the intermediate computer, from a service description document comprising a description of a processing functionality implemented during a preprocessing or the post-processing of data in XML format of the message exchanged during the execution of a service on the communication network, and extracts, from the service description document, the description of the service associated

with the document. Then, the intermediate computer i) extracts a processing from the received message, ii) acquires from the service description document at least one imperative value associated with a property of the processing, iii) verifies whether the imperative value is included in a list of values which can be attributed to a property supported by the functionality described in the service description document, iv) reads a value associated with a property adapted to specify whether the processing is executed before or after the sending of the message, v) executes the processing when the read value specifies that the processing must be executed before the sending of the message, and vi) validates the result of the processing with respect to a type of data specified in the service description document.

Neither Stawikowski or Lonnroth are seen to teach the features of the service description document is independent of any client or user characteristic and comprises a description of a processing functionality implemented during a preprocessing or post-processing of data in XML format of a message exchanged during the execution of the service on the communication network.

As discussed above, Stawikowski is not seen to teach these features. As for Lonnroth, it is seen to disclose converting service requests from one protocol to another so as to provide the service to a device, such as a wireless phone. The wireless phone may issue a service request in WAP, which is converted to HTTP by gateway 202 and the converted request is provided to pre-processor 240, which obtains information specific to the user of phone 210 from configuration database 254 and performs any preprocessing (such as authenticating the user). Once the user has been authenticated, the request is processed by the remainder of the system to output a HTTP response to gateway 202,

which is converted back to WAP. In Lonnroth, however, the request is not seen to be a service description document provided to phone 210 that describes the services provided by the system of Lonnroth. Moreover, Lonnroth is not seen to teach that a service description document is independent of any client or user characteristic and comprises a description of a processing functionality implemented during a preprocessing or post-processing of data in XML format of a message exchanged during the execution of the service on the communication network. Thus, Lonnroth is not seen to teach anything that, when combined with Stawikowski, would have disclosee or suggested the features of Claims 14 and 18.

In view of the foregoing, Claims 1, 13, 14 and 16 to 18, as well as the claims dependent therefrom, are believed to be allowable over Stawikowski, Dani and Lonnroth.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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